

CLAIMS

What is claimed is:

1. ~~1.~~—A lightweight vehicle body part, ~~particularly a vehicle body part, which including~~
anes oblong profiled beam made of ~~sheet steel,~~
and

a light metal,

wherein

the beam has an open cross-section with a base and
two legs extending from said base; and

the beam

~~characterized in that~~

~~the sheet steel (6 through 8) is implemented as thin-walled, particularly having a thickness of less than 2 mm, and has at least one free area which is locally provided with a cast or sintered reinforcement structure (15) made of~~ the light
metal.

2. The lightweight part according to Claim 1,

~~characterized in that~~wherein

~~the reinforcement structure (15) includes at least one local thickening which is positioned at a strongly loaded point of the sheet steel.~~

3. The lightweight part according to claim 1~~one of the preceding claims,~~

~~characterized in that~~wherein

the reinforcement structure (15) includes multiple ribs which are positioned essentially perpendicularly to the sheet steel.

4. The lightweight part according to Claim 3,

~~characterized in that~~ wherein

the ribs (15) are connected to one another in crosses.

5. The lightweight part according to claim 1 ~~one of the preceding claims,~~

~~characterized in that~~ wherein

the reinforcement structure (15) is cast onto the sheet steel or is cast into the sheet steel on only one side.

6. The lightweight part according to claim 1 ~~one of the preceding claims,~~

~~characterized in that~~ wherein

the reinforcement structure (15) is connected to the sheet steel in a form-fitting way.

~~7. The lightweight part according to one of the preceding claims,~~

~~characterized in that~~

~~the sheet steel (15) is implemented as an oblong girder (2, 3) having an open, particularly U-shaped cross-section having a base (6), from which two legs (7, 8) originate.~~

78. The lightweight part according to Claim 17,

~~characterized in that~~wherein

both the base ~~(6)~~ and the two legs ~~_(7, 8)_~~ of the beam are connected to the reinforcement structure.

89. The lightweight part according to Claim 67 or 78,

~~characterized in that~~wherein

flanges ~~(11, 12)~~, onto which the reinforcement structure ~~_(15)_~~ is cast, extend from the two legs ~~(7, 8)~~.

910. The lightweight part according to Claim 89,

~~characterized in that~~wherein

the reinforcement structure ~~(15)~~ is attached to the two flanges with the aid of attachment means.

101. The lightweight part according to Claim 89 or 10,

~~characterized in that~~wherein

the reinforcement structure ~~_(15)_~~ is attached to the base of the beam with the aid of attachment means.

112. The lightweight part according to claim 10 ~~one of the preceding claims~~,

~~characterized in that~~wherein

the reinforcement structure ~~_(15)_~~ is held on the sheet steel through protrusions and/or depressions, particularly beads, implemented in the sheet steel.

123. The lightweight part according to ~~one of Claims 78 through 12,~~

~~characterized in that~~wherein

the ~~oblong beam (3)~~ has a ~~is implemented as T-shaped cross section at~~ on ~~at least one end of said beam, when viewed in the top view.~~

134. The lightweight part according to claim 1, ~~one of the preceding claims,~~

~~characterized in that~~wherein

the sheet steel has a thickness of less than 2± mm in at least some regions.

14. The lightweight part according to claim 1, wherein the sheet steel has a thickness of less than 1 mm in at least some regions.